HEXAGON
METROLOGY

USER AND INSTALLATION MANUAL

PC-DMIS – PRESET & MEASURE
VERSION 2.XXXX.YYY

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HEXAGON METROLOGY

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1. Software configuration

Before the software is used for the first time, it must be adapted to your environment. This first step requires administrator rights.

The software is for installation on a **64 bit computer** with **Windows 7** only.

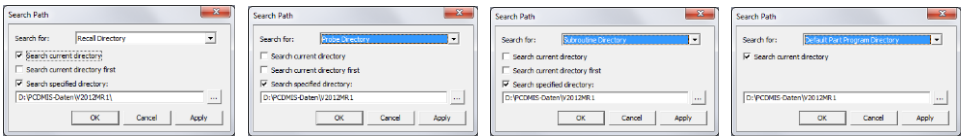
1.1. Language settings

The converter is started in the language which is set in PC-DMIS™ (as far as it is supported by converter).
If the language selected in PC-DMIS™ is not supported by converter it will be started in English. The user then has the option to select one of the languages supported by converter.
If a language is set in PC-DMIS™ that is also supported by converter, any other language setting in converter will only be temporary in nature. After the software is restarted the PC-DMIS™ language setting will be used again.

If you wish to use a language which is not available for selection, please contact the software supplier or manufacturer.

1.2. Einstellung unter PC-DMIS™

In den Suchpfaden von PC-DMIS™, müssen folgende Einstellungen vorgenommen werden.



2. Installationsanweisung

2.1. Lieferungsumfang

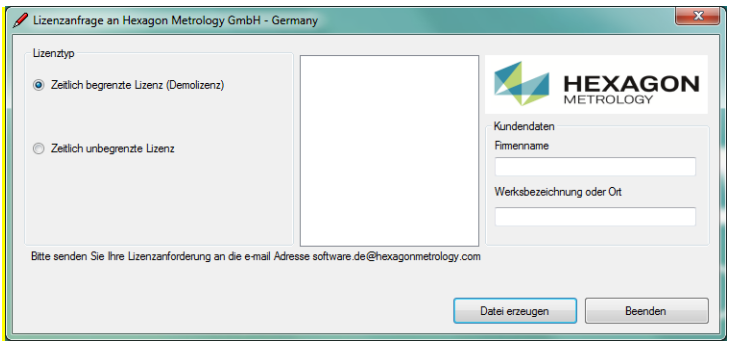
Die Software steht zum herunter laden auf dem ftp-Server der Firma Hexagon Metrology GmbH unter folgender URL zur Verfügung:

http://ftp.hexmet.de/PC-DMIS/

2.2. Installation

Um diese Software auf Ihrem PC-DMIS Rechner zu installieren, gehen Sie bitte wie folgt vor:

- Überprüfen Sie die aktuell verwendete PC-DMIS Version.
- Entpacken Sie das WinZip Archiv auf dem PC-DMIS Rechner.
- Zur Installation der Software starten Sie die Datei „Setup.exe“. Anschließend folgen Sie den Anweisungen der Setup Prozedur.
- Nach erfolgreicher Installation. starten Sie PC-DMIS.
- Starten Sie Preset & Measure über die zugehörige Windows Startgruppe. Bei fehlender Lizenzdatei öffnet sich ein Dialog für eine Lizenzanfrage:



- Im Menü „Language/Sprache“ können Sie die Sprache des Dialogs wählen. Geben Sie dann den Firmennamen und den Werksstandort ein. Entscheiden Sie zwischen einer Demolizenz und einer gekauften (unbegrenzten) Lizenz durch Auswahl des entsprechenden Lizenztyps.
- Bei Wahl der gekauften Lizenz, erscheint das Feld Auftragsnummer. Hier geben Sie bitte die PC-DMIS

Portlocknummer ein. Anschließend können Sie die Lizenzanfrage mit der Schaltfläche <Datei erzeugen> abspeichern.

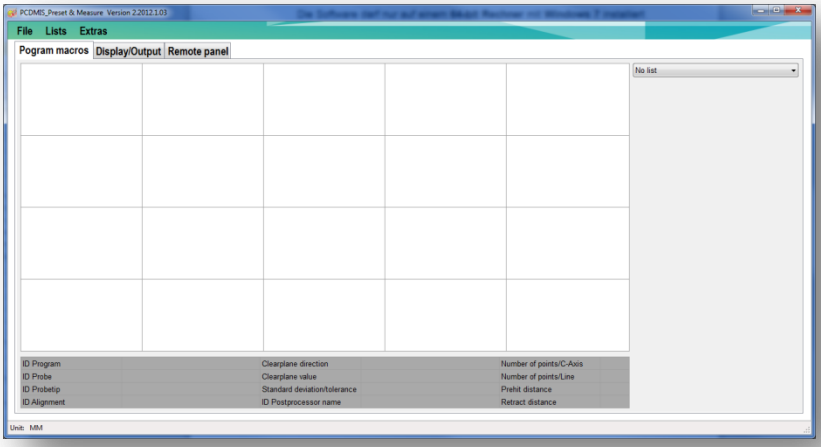
- In das Feld „PC-DMIS Portlock Nr. (TAG)“ muss die Portlocknr. des PC-DMIS Portlocks eingetragen werden. Diese Nummer befindet sich als Aufkleber auf dem Portlock oder kann in PC-DMIS unter der Rubrik „Hilfe → Info“ über PC-DMIS abgerufen werden.
- Die Lizenzanfrage senden Sie nun an software.de@hexagonmetrology.com
- Auf die sendende E-Mail Adresse erhalten Sie die Lizenzdatei innerhalb von 24 Stunden zurück.
- Diese Lizenzdatei kopieren Sie in das Installationsverzeichnis des Konverters.
- Anschließend können Sie die Software benutzen.
- Bei technischen Fragen wenden Sie sich an unsere PC-DMIS Hotline unter der Rufnummer***: +49 6441-207-207***

2.3. Deinstallation der Software

Zur Deinstallation der Software steht eine entsprechende Routine in der Programmstartgruppe zur Verfügung.

3. How to use the software

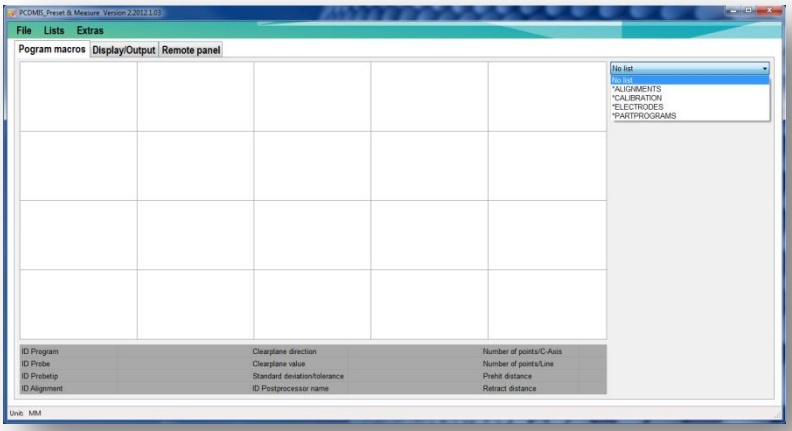
3.1. User interface of the software



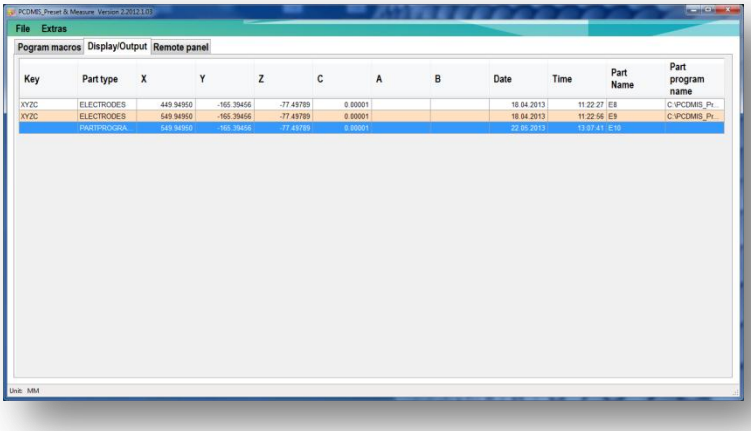
The user interface of the software can be divided into the following segments:

- Menu bar

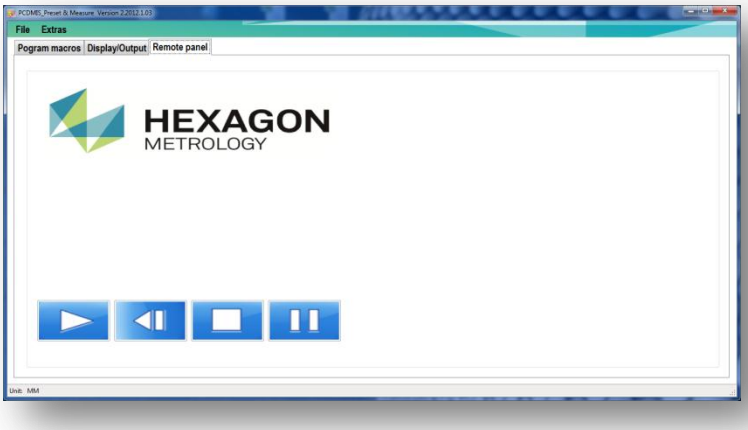
- Program macros



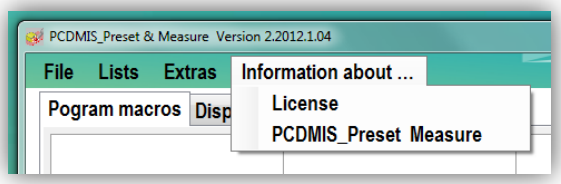
- View / Output



- Remote Panel



- Info über…

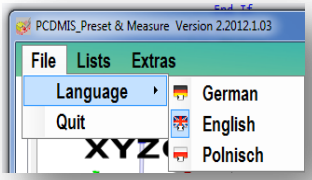


Unter dem Menüpunkt „Info über…“ befinden sich:

- Lizenz
- PCDMIS_Preset Measure

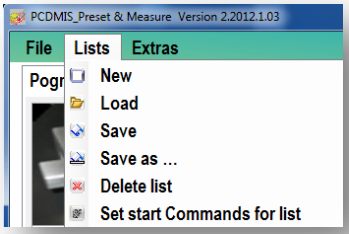
3.2. Menu structure

- File



  - The "File" menu option includes the "Language" menu item for selecting the language of the software.
  - The "Exit" menu item can be used to close the software.

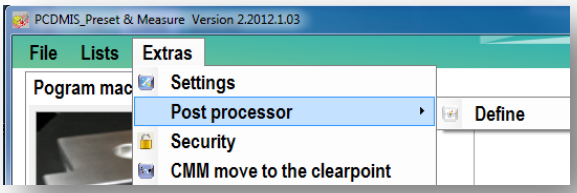
- Lists



You can use this section to create new lists and to modify, edit and delete existing lists.

  - New
  - Load
  - Save
  - Save As ...
  - Clear List
  - Setting up start commands for the list

- Tools



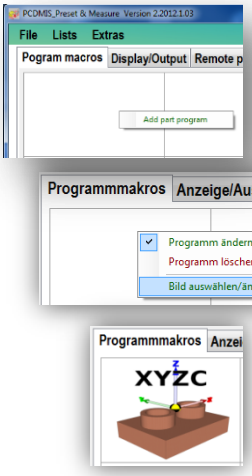
The "Tools" menu includes the following options:

- Settings
- Postprocessor
  - Define
- Clearance
- CMM travel to clearance point

4. Lists

4.1. Create new lists for program macros

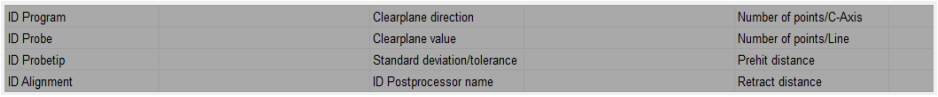
Use the “List → New” menu option to create lists. These are used to launch calibration or measurement programs.



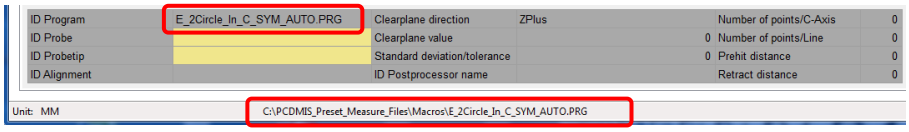
When a new list is created, the boxes are not populated with program calls. By right-clicking onto the related box the "Select program" option appears. The appropriate program will then be assigned.

If you want to make the program selection clearer, you can add a picture to this box. Here again, right-click onto the macro field. The following dialog box can be used to modify or delete a program which was already assigned. With the "Select/change picture" option you can select an image file. It can have a PNG, JPG or BMP format.

An information window is located beneath the macro fields. If you hover your mouse over these fields and no program is associated to them, no information will be displayed at the bottom.



When a program had been assigned to a field, information such as program name and path is displayed.

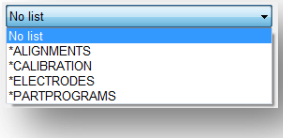


You can now assign further programs to other fields. Finally you have to save the list (see also ***chapter 4.3).***

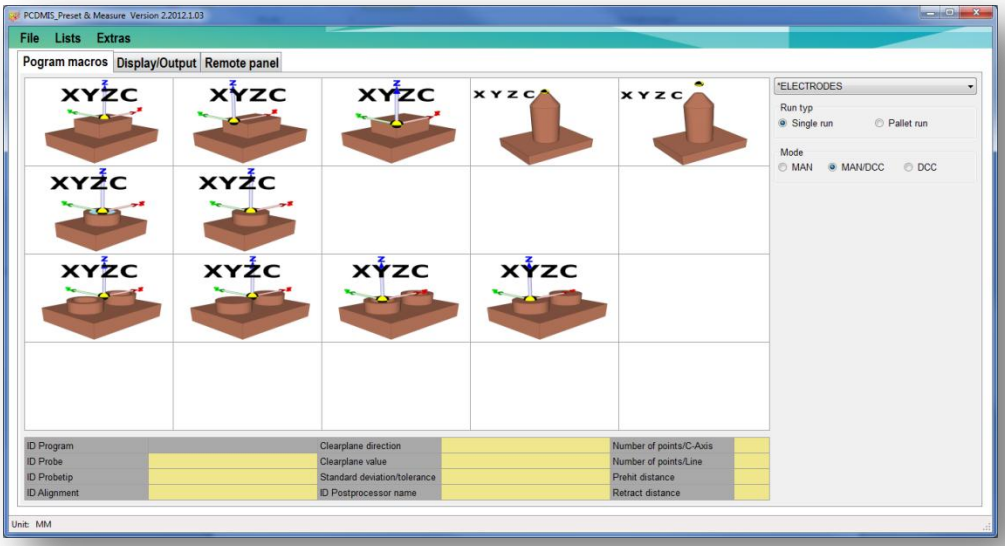
4.2. Activating existing program macros

You can activate standard or customized macros with the “Lists → Load” menu option.

You can also select these macros by using the drop down menu on the right-hand side.



If, for example, the Electrodes list had been loaded, the associated programs and images are shown in the dialog box.



4.3. Saving existing Lists

An existing list had been loaded and modified. Save these changes by clicking on the List → Save menu option.

4.4. Saving new Lists

If you have created a new list, you can save this list by clicking on the "Lists → Save as" menu option and by entering the location.

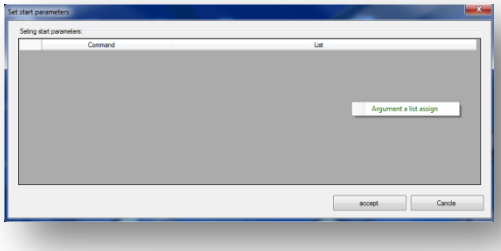
4.5. Deleting Lists

Existing lists can be deleted with the "Lists → Clear list" menu option.

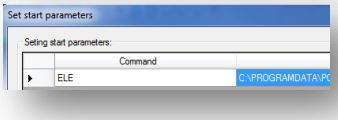
4.6. Setting up a start command for lists

You can create a start icon by which a list, i.e. Electrodes, is automatically loaded when starting the software.

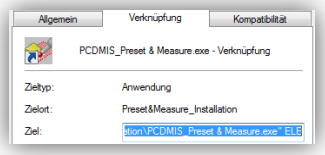
Right-click on the surface in the "Set up start arguments" dialog box. Select a list, i.e., ELECTRODES, under the "Assign arguments to a list" menu option.



Now you can enter any word you like into the command field. In this case it is ELE. Click on Apply.



Now this command (ELE) must be entered into the Properties > Target field. Insert a blank space and then ELE after the EXE program path. Close the dialog box by clicking on Apply and OK.



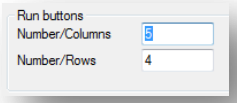
The ELECTRODES list will now be loaded automatically when starting the software. Another advantage is that no entries can be made in the Lists and Tools menus.

5. Tools

5.1. Settings

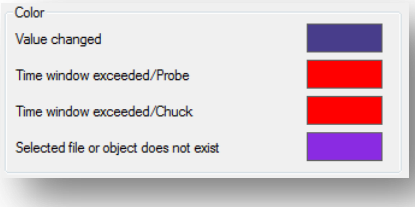
- ### Start field

  Use this section for defining the number of buttons.

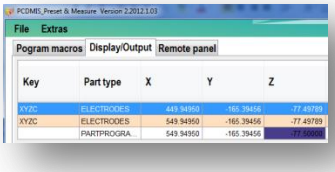


- ### Color

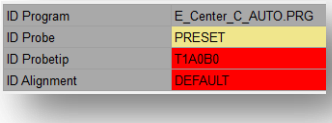
  You can define various parameters in this section. A color can be changed by left-clicking onto the color to be changed and by choosing another one.



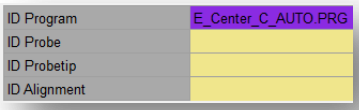
  When a measurement value has been corrected, the corrected value will be shown in the color which corresponds to "Measurement value changed".



  When the time-frame for the probe or chuck calibration is exceeded, the fields are displayed in the defined colors.

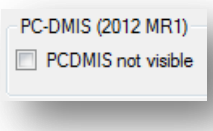


  If a file or an object does not exist, this will be also indicated by color-code.



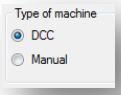
- ### PCMDIS(2012…)

  PC-DMIS™ will not be displayed if this option is enabled.

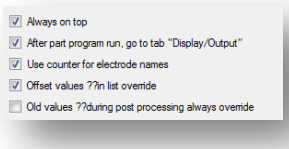


- Machine type

  Use the Machine Type section to choose a manual or CNC machine type.



- General setup


Always on top
After part program run, go to tab "Display/Output"
Use counter for electrode names
Offset values ??in list override
Old values ??during post processing always override

Always in the foreground:

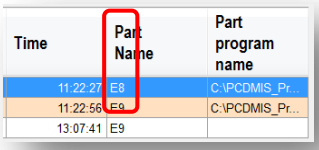
The software is always displayed in the foreground.

Enabling the "View/Output" tab after measurement:

This tab will appear after the program has been executed.

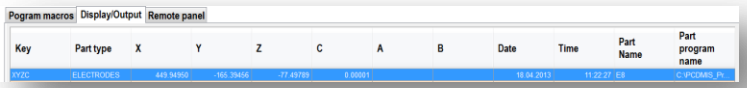
Use counter for electrode name:

If check marked, the part name will be incremented automatically.



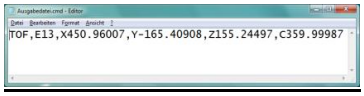
Overwrite offset values in list:

If check marked, the last measurement cycle for each electrode is shown in the "View/Output" field.



Always overwrite old values with post-processing

When results are passed to a post-processor, only the last results are saved in the indicated file *(see also **chapter 5.2)***.



- Unit

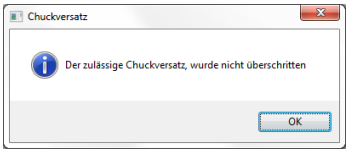
  The unit can be changed from "mm" to "inch".

- Grenzwert für Chuck Test

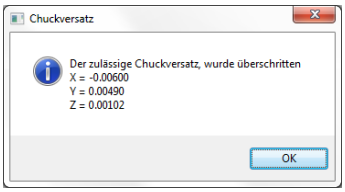
  Beim ersten einmessen der Ausrichtung (Chuck) werden die ermittelten Wert gespeichert. Wird nun die Ausrichtungs Überprüfung angewählt, wirde der zuletzt ermittelte Wert mit dem derzeit aktuellen Wert verglichen.

  Die Toleranz für diesen Vergleich wird unter „Grenzwert für Chuck Test“ eingetragen.

  Wird der Wert, in allen drei Achsen unterschritten, erschein folgende Meldung:



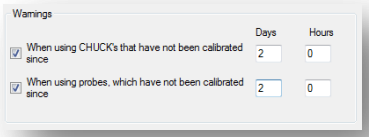
  Wird der Wert, in einer Achse überschritten, erscheint folgende Meldung.



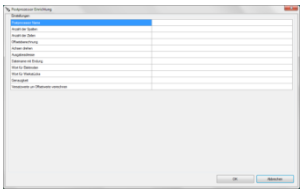
- WARNINGS

  You can check mark the warning messages for chucks or probe tip calibration. If enabled, intervals can be defined in days and hours.

  If chucks or probe tips are used for one program, the warning message is shown after its execution.



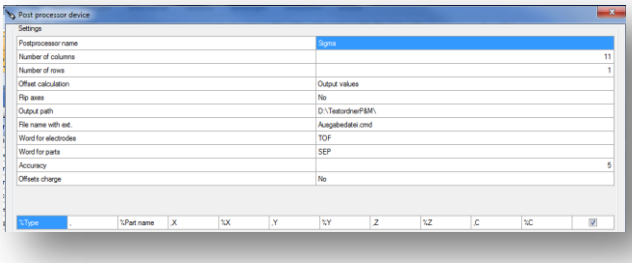
5.2. Defining a post-processor



Use the "Tools → Postprocessor → Define" menu option to setup a new post-processor or to modify an existing one.

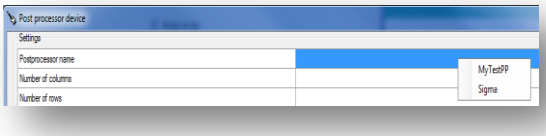
Right-click onto the field "Post-processor Name". Any existing post-processors are listed here. The settings are loaded by clicking on a post-processor.

They will look like this:

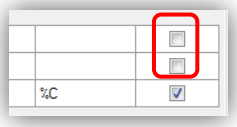


Of course you can also create a completely new post-processor. First you have to define a processor name, and then the columns and lines for the notation of results.

When you have defined multiple lines, you can choose different types of representation.

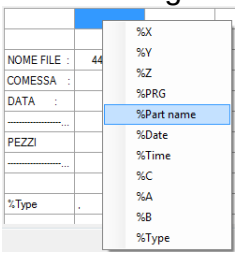


Lines can include fixed values that are to be written only once into a TXT file. This means that this so-called header data is only written in the first run regardless of how often a program is repeated. This function is provided by unticking the box at the end of the line.



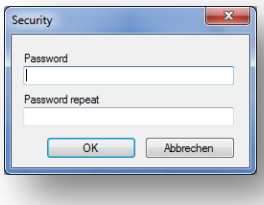
If check marked, the line is a repetitive line. Hence, this line will always be written with the current values whenever the program is launched.

Now right-click on a cell. The pre-defined variables will appear. They can be assigned to any line.



5.3. Clearance

If this option is enabled, only "Load list" is active in the "Lists" menu option. Only the "Clearance" and "CMM travel to clearance point" options are active in the "Tools" menu.

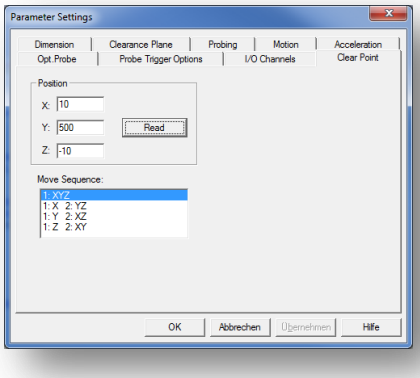


5.4. CMM travel to clearance point

If a clearance point has to be included, it must be defined directly in PC-DMIS™. After it has been set it can always be applied by PC-DMIS™ Preset & Measure.

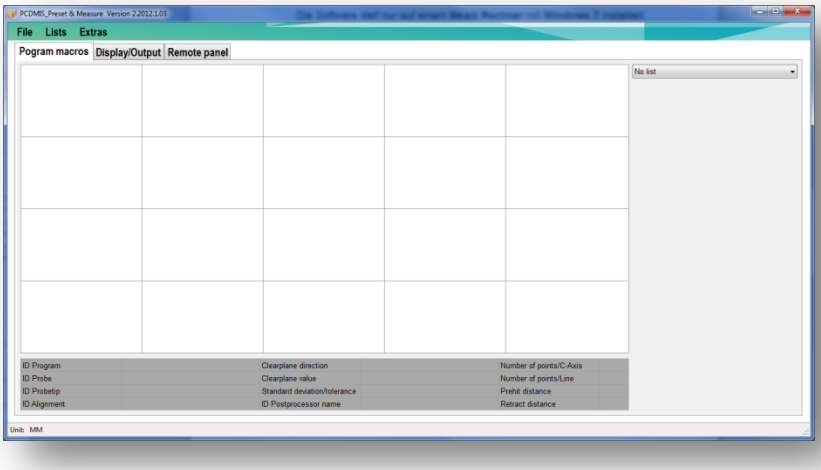
The procedure in PC-DMIS™ is as follows:

- A program must be already open.
- Press key "F10"
- Now you can define the point in the "Clearance point" tab as a position to which the probe shall move. In addition, you can set the order of moves, for example, first move to Z clearance and then to X and Y.

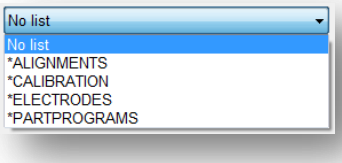


6. Program flow

6.1. Program macros



Please consult ***chapter 4.1*** for further information on the button design. On the right-hand side you can call up the created lists.



Please note, that there are two different types of lists. On the one hand we have the so-called Function lists. These are installed automatically with the software installation. They are marked with an asterisk before their name. They are not only used for launching a program but they also include some information required for the program flow. The pallet workflow, for example, is only available in the "ELECTRODES" list.

However, customized lists are not marked with an asterisk. These lists can be linked to any program.

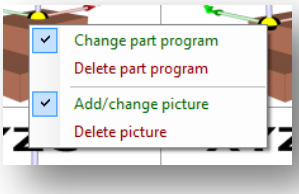
- ### Add program

  Please perform the following steps to assign a program to a list:

  - Select a list or create a new one *(see **chapter 4.1**)*
  - Now right-click on a blank field
  - Click on "Select program"
  - Now right-click on the field again
  - Click on "Select/change picture"
  - Now you can select a picture with PNG, JPG or BMP suffix.

- ## Modify program

It is always possible to change the link of a program to a button.

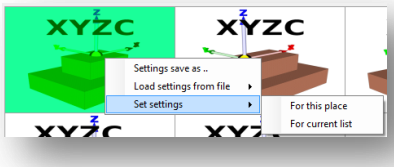


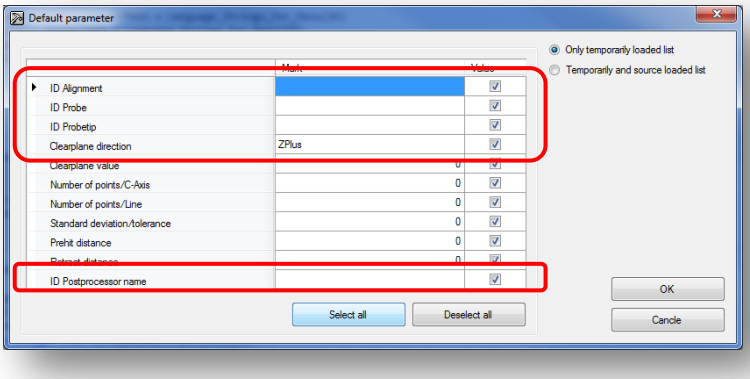
- Right-click on the button that you want to change.
- Click on "Change program" to change a program.
- If you want to remove this program, click on "Delete program"
- Click on "Select/change picture" to change a picture
- Click on "Delete picture" to remove a picture

- ## Defining settings

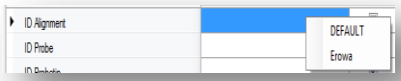
Perform the following steps to define the settings for a program or a selected list:

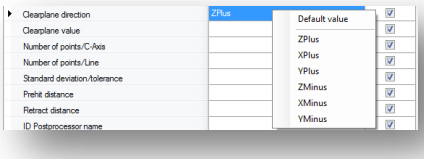
- First, select a program by clicking on the left mouse button.
- Now right-click on the program of your choice.
- Click on "Define settings"
- You can choose between the options "For this place" or "For this list"
  - "For this place" means that the settings are defined only for the selected program
  - "For this list" means that the settings are applied to all programs listed in this list

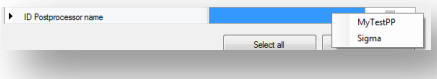


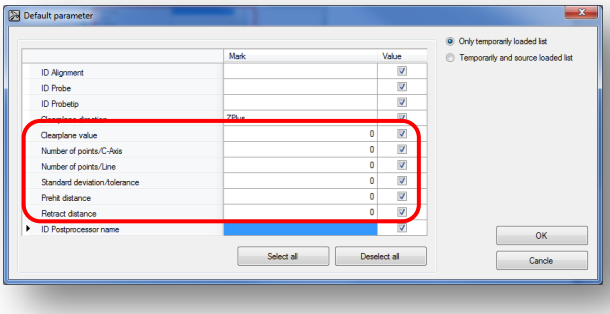


The Default Parameters dialog box is used for the definition of settings such as chuck, probe, clearance etc. Right-click on the field you want to edit and a menu will appear with various options.





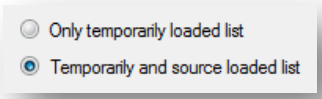




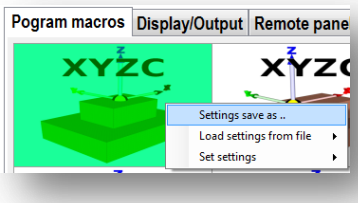
Other parameters such as pre-hit and retract distance offer only one choice, the "Default value". The value can be edited by double-clicking it.

If the parameters are only to be applied until the software is closed again, the "Only temporary loaded list" option must be check marked when you exit the dialog with the OK button.

If the "Temporary loaded list and source list" option is enabled in the dialog box, the changed parameters will also be saved (for example in the ELECTRODES list).



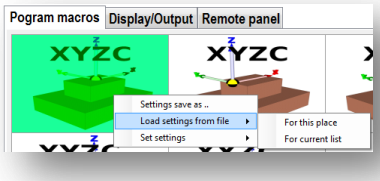
- Save Settings As



The "Save Setting As" option is used to save the parameters set in the "Define Settings" section.

Now these settings can also be loaded into other lists or used with other programs.

- Load settings from a file

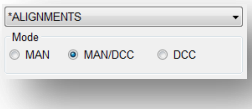


In the "Load settings from a file" section you can load parameters that have previously been saved. These parameters can be loaded for the currently selected program or for complete lists such as Electrodes.

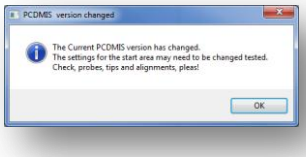
6.2. The Function lists

- ### Chuck

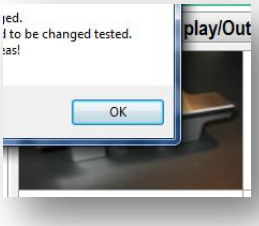
The Function list CHUCK enables the execution of a program in three different ways.



By selecting the MAN mode, only the manual part of a program is launched. By selecting MAN/CNC, the manual part as well as the CNC part will be executed. The last option is the CNC mode, in which only the CNC part is started.

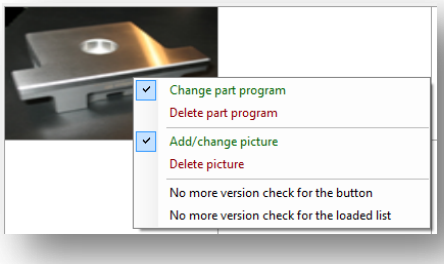

PCDMIS version changed
The Current PCDMIS version has changed.
The settings for the start area may need to be changed tested.
Check, probes, tips and alignments, pleas!
OK

If a PC-DMIS™ Update has been executed on your PC and you hover the mouse over the program button, the following message will appear:



This message will appear every time the program is called up. It is possible to hide this message. All you have to do is drag this message with the OK button over the welcome screen as shown in the picture. Do not confirm the message until you have done this. Now the message will not appear again when the mouse cursor is moved over the program's welcome screen.

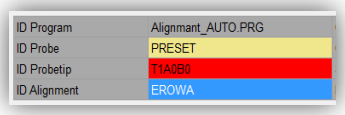
Another possibility is to right-click on the button. Now a dialog opens with the options "Stop version checks for this button" or "Stop version checks for the loaded list". Choose one of these options and the message will not be displayed again for this button or the complete list.


Change part program
Delete part program
Add/change picture
Delete picture
No more version check for the button
No more version check for the loaded list

In order to maintain this setting you have to save the Function list (see chapter 4.3).

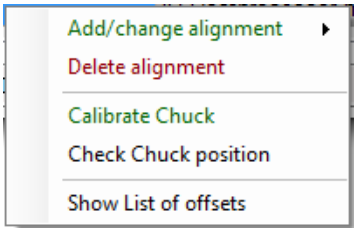
To start a program it has to be marked. By left-clicking the program, the button becomes green and the start button appears at the bottom left corner. Now the program can be started with the button.

Ist die Aufnahme noch nicht eingemessen, so müssen folgende Schritte durchgeführt werden. Das Messprogramm ist grün hinterlegt. Mit der linken Maustaste in „ID Ausrichtung“ klicken und danach mit der rechten Maustaste, in das gleiche Feld.

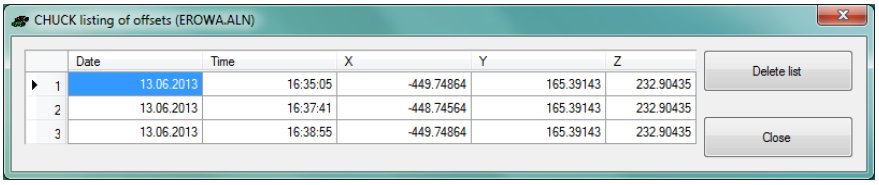


In diesem Fenster besteht die Möglichkeit „Chuck einmessen“, „Chuckposition überprüfen“ oder „Liste der Versatzwerte anzeigen“ auszuwählen.

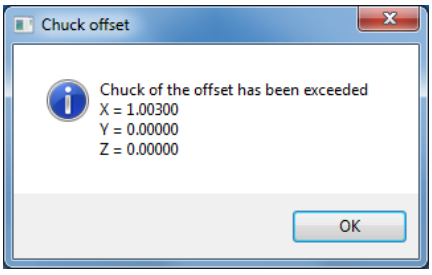
Besteht nur die Option „Chuck einmessen“, wurde diese Ausrichtung noch nie eingemessen. Nach dem einmessen der Chuckposition, erschein auch die Option „Chuckposition überprüfen“.



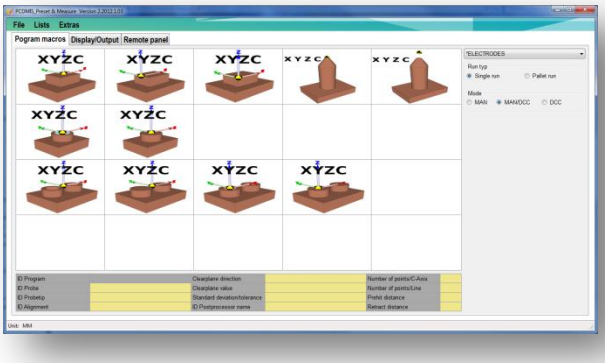
In dem Dialog „Liste der Versatzwerte anzeigen“, werden die Versatzwerte, Datum und Uhrzeit der Einmessung, gespeichert



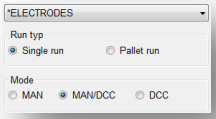
Ist der Chuckverstz überschritten, wird dieser nach der Messung angezeigt.



- Electrodes

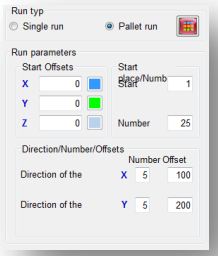


The ELECTRODES dialog is used to call up pre-set programs. They can be started in the single run mode as well as in the CNC mode.

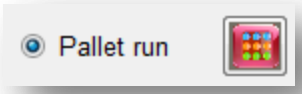


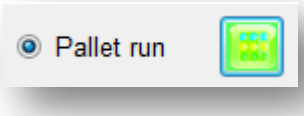
In the single run mode it is possible to start a program manually (MAN) as well as in the MAN/CNC (mixed) or CNC mode.

The pallet workflow offers numerous possibilities.

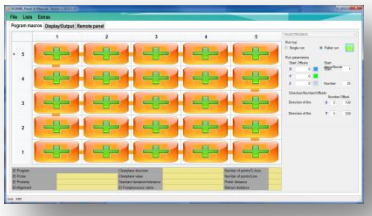


To preset the pallet workflow you have to press the button to the right of the pallet workflow button. The button will change from red to green and the buttons will be replaced by the defined number of pallet ports.

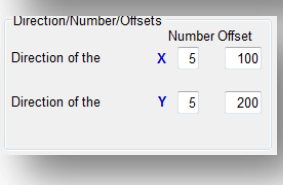




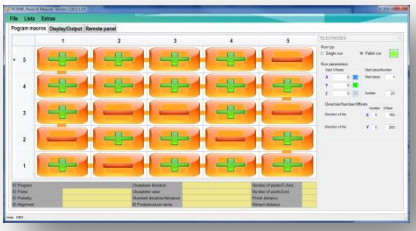
The pallet ports are marked with a green cross. This means that this pallet is loaded with a component ready to be measured.



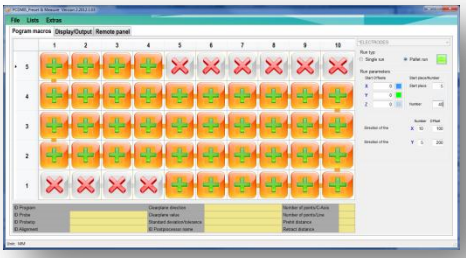
To allow changes in the number of fixtures, it is possible to change the values for the fixture and row orientation. The distance from fixture to fixture is defined by the offset value.



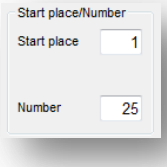
In the event that a pallet is not fully loaded, it is possible to mark the free ports on the pallet within the software. If you left-click on the appropriate field, the display will change into a red minus sign. During program execution the ports with a red minus sign will be skipped.



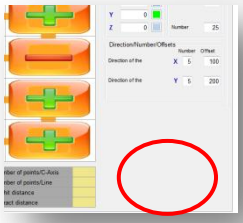
In addition, you can define restrictions for all fixtures from the starting to the end point. These places are marked with a red X.



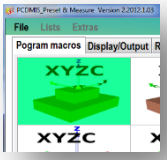
Use the “Starting point/number" option to define these restrictions. If you enter "5" in the "Starting point" field, the measurement will start at fixture 5. The available fixtures are also restricted by the number value. If other fixtures are marked subsequently with a red minus sign, it has no effect on the number.



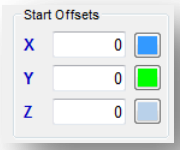
If you want to run a program in combination with a pallet workflow you must first select a program. Without a program selection the start button at the bottom right corner will not be visible.



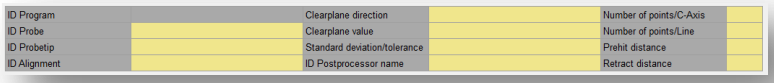
Select the desired program by clicking on the left mouse button. Then press the pallet port button again.

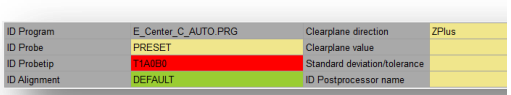


The start offset can be defined in this section. If you press one of the three buttons following the entry values, the CMM will move to this position.



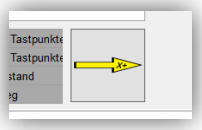
If no program has been selected, there will be no data in the program area. After the selection of a program all data will be visible.

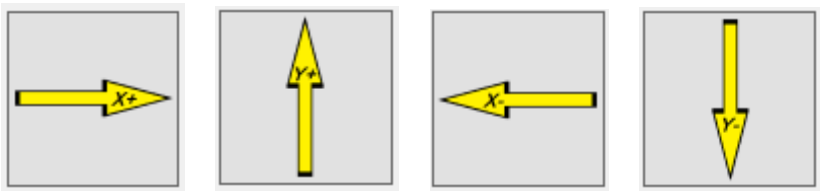




During the pallet measurement cycle a probe is displayed on the pallet port that is being measured.

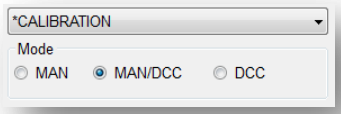
Mit diesem Symbol kann die Bezugsachse der Winkelausgabe (C-Achse) festgelegt werden. Mit der linken Maustaste auf das Symbol klicken und die Richtung wird gewechselt.





- Calibration

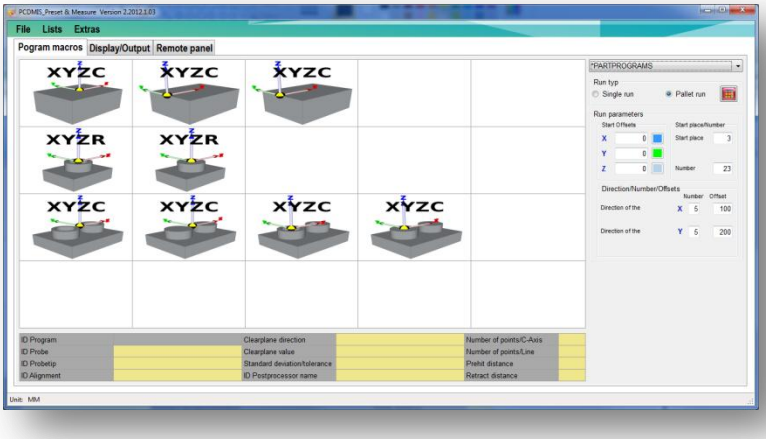
For the Function list CALIBRATE the same conditions apply as for the Function list CHUCK.



By selecting the MAN mode, only the manual part of a program is launched. By selecting MAN/CNC, both the manual part as well as the CNC part, will be executed. The last option is the CNC mode, where only the CNC part is started.

To start a program it has to be marked. By left-clicking the program the button becomes green and the start button appears at the bottom left corner. Now the program can be started with the button.

- Part Programs

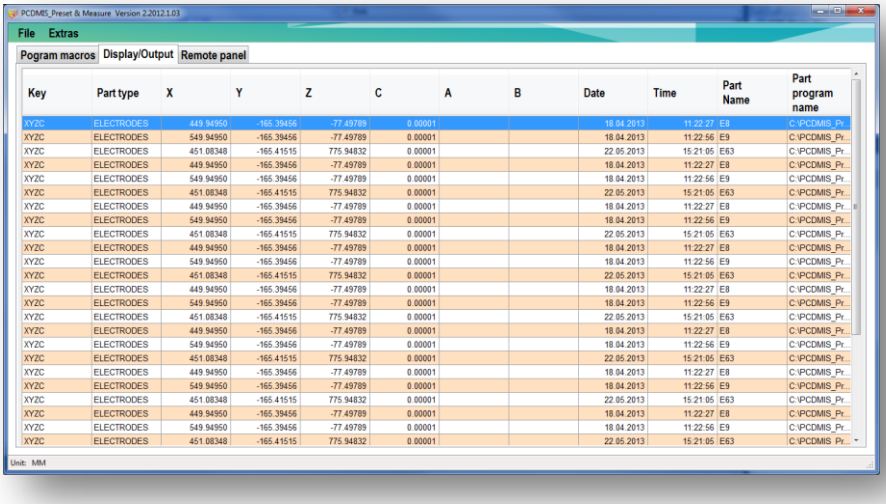


The function lists Part Programs and ELECTRODES are similar in their application, the only difference being that other programs are called up.

Description of ELECTRODES functions.

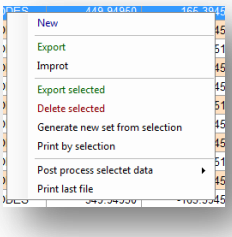
Note: *If a program has been assigned to the Function lists **(marked with asterisk)**, these must be written according to a specific structure. Otherwise the required special functions, such as looping programming, will fail to work.*

6.3. View / Output



In the View / Output window, all measurement cycles are shown and can be edited if required.

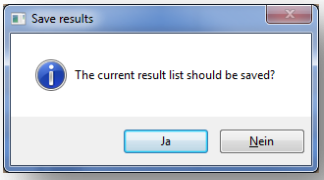
By right-clicking on the list the following options will be available for selection.



- New

  Use the "New" command to delete all existing data.

  For safety reasons you will be asked whether you want to save the current result list.



- Export

  Use the Export option to create a TXT file with the data displayed in the "View/Out" window.

- Import

  An already existing TXT file with data can be loaded with the "Import" option.

- Export Selection

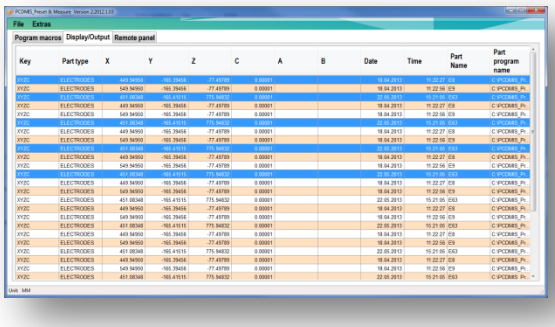
  It is possible to pass only specific values to a TXT file. The data can be marked with the "STRG" and "SHIFT" keys. You can then use the "Export selection" option to write them into a TXT file.

- Delete Selection

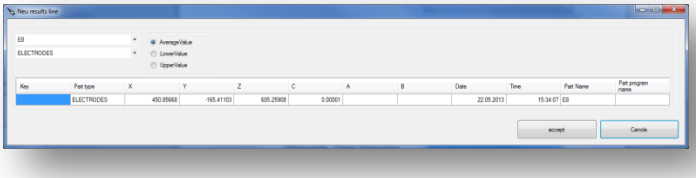
  The data can be marked with the "STRG" and "SHIFT" keys. You can then use the "Delete Selection" option to delete them.

- Create new Set from Selection

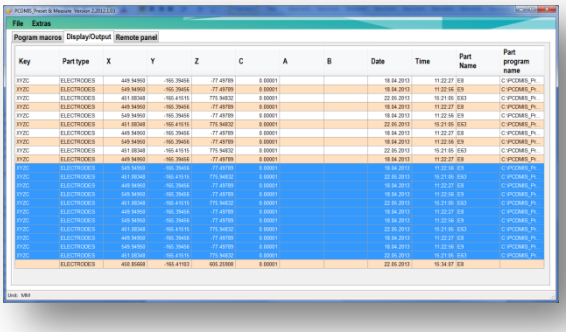
  To calculate the mean from multiple values you can mark several series of measurements. Use the "Create new Set from Selection" command for calculating a new measurement series.



  It will first appear in a separate dialog box. You can then apply it to the measurement series by clicking on the Apply button.



The mean value measurement series is displayed in the measurement series section. This measurement series is not provided with a key and is not assigned to any program.

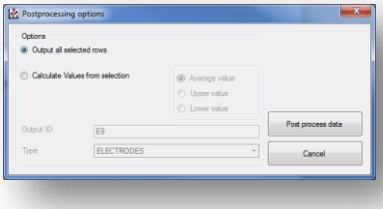


- ## Print Selection

  Use the "Print Selection" option to print the marked series of measurements.

- ## Post-process selected File

  You can now select a measurement series and pass it to a post-processor. The available post-processors are listed under the "Post-process selected File" option. If you have already made a selection the measurement series of your choice will be written out.



  If you have marked several series of measurements you can define the number of lines to be passed in the "Options for post-processing" dialog box.

  A second possibility is to check mark the "Output from selected lines" option. The mean, minimum and maximum value options will then be enabled. These values can also be output to a post-processor file.

- ## Print last File

  This command is only enabled if a TXT file had already been saved. When this command is executed the last saved file will be printed.

6.4. Remote Panel

The "Remote Panel" window displays the elements which are currently being processed.

You can use this window to suspend, stop or start the program.